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(socket or slot) same (configur\$5 near5 bus) same indicator	6

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Search:

L3

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Search History

 DATE: Monday, June 28, 2004 [Printable Copy](#) [Create Case](#)

Set Name Query

side by side

DB=USPT,USOC; PLUR=YES; OP=OR

Hit Count Set Name

result set

<u>L3</u>	(socket or slot) same (configur\$5 near5 bus) same indicator	6	<u>L3</u>
<u>L2</u>	socket same slot same (configur\$5 near5 bus) same indicator	0	<u>L2</u>
<u>L1</u>	(socket near10 slot) same (configur\$5 near5 bus) same indicator	0	<u>L1</u>

END OF SEARCH HISTORY

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Search Results -

Terms	Documents
L3	0

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Set Name Query

side by side

Hit Count Set Name

result set

DB=EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR

L4 L3

0 L4

DB=USPT,USOC; PLUR=YES; OP=OR

L3 (socket or slot) same (configur\$5 near5 bus) same indicator

6 L3

L2 socket same slot same (configur\$5 near5 bus) same indicator

0 L2

L1 (socket near10 slot) same (configur\$5 near5 bus) same indicator

0 L1

END OF SEARCH HISTORY

Refine Search

Search Results -

Terms	Documents
(439/43 439/55 439/928.1 361/683 361/686 361/600 361/636 361/748 361/760 361/736 710/301 710/2 710/105 710/8 710/100 710/10 710/104 710/11 710/305 710/62 713/300 713/100 326/63).ccs.	11768

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 EPO Abstracts Database
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 Derwent World Patents Index
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SetName Query

side by
side

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L5 710/301,2,105,8,100,10,104,11,305,62;361/683,686,600,636,748,760,736;439/43,55,928.1;326/6.

DB=EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR

L4 L3

DB=USPT,USOC; PLUR=YES; OP=OR

L3 (socket or slot) same (config\$5 near5 bus) same indicator

L2 socket same slot same (config\$5 near5 bus) same indicator

L1 (socket near10 slot) same (config\$5 near5 bus) same indicator

END OF SEARCH HISTORY

Refine Search

Search Results -

Terms	Documents
L5 and L6	16

Database:

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 US OCR Full-Text Database
 EPO Abstracts Database
 JPO Abstracts Database
 Derwent World Patents Index
 IBM Technical Disclosure Bulletins

Search:

L7

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Search History

DATE: Monday, June 28, 2004 [Printable Copy](#) [Create Case](#)

Set
 Name Query
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DB=USPT,USOC; PLUR=YES; OP=OR

L7 L5 and L6

L6 (config\$5 near5 bus) same indicator

L5 710/301,2,105,8,100,10,104,11,305,62;361/683,686,600,636,748,760,736;439/43,55,928.1;326/6

DB=EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR

L4 L3

DB=USPT,USOC; PLUR=YES; OP=OR

L3 (socket or slot) same (config\$5 near5 bus) same indicator

L2 socket same slot same (config\$5 near5 bus) same indicator

L1 (socket near10 slot) same (config\$5 near5 bus) same indicator

END OF SEARCH HISTORY

EAST - [Untitled1:1]

File View Edit Tools Window Help

Drafts
Pending
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L1: (6) (socket or slot) sam
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Favorites
Tagged (0)
UDC
Queue
Trash

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BRS I... IS&R... Image Text HTML

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition	Err
1	BRS	L1	6	(socket or slot) same (configur\$5 near5 bus)	USPAT	2004/06/28 14:53			0

Start Proxima SSO EAST - [Untitled1:1]

EAST - [Untitled1:1]

File

View

Edit

Tools

Window

Help

Drafts

Pending

Active

L1: (6) (socket or slot) sar

Failed

Saved

Favorites

Tagged (0)

UDC

Queue

Trash

Search

List

Browse

Queue

Clear

DBs

USPAT

Plurals

Default operator:

OR

Highlight all hit terms initially

(socket or slot) same (configur\$5 near5 bus) same indicator

BRS I...

IS&R...

Image

Text

HTML

	U	I	Document ID	Issue Date	Pages	Title	Current OR	Current XRef R
1	<input type="checkbox"/>	<input type="checkbox"/>	US 6754747 B2	20040622	10	System and method for configuring an I/O bus	710/100	710/107
2	<input type="checkbox"/>	<input type="checkbox"/>	US 6647021 B1	20031111	14	Asymmetrical digital subscriber line (ADSL)	370/438	370/236; 370/458
3	<input type="checkbox"/>	<input type="checkbox"/>	US 6547730 B1	20030415	15	Ultrasound information processing system	600/437	
4	<input type="checkbox"/>	<input type="checkbox"/>	US 6047379 A	20000404	16	Information bus regenerator	713/300	307/66; 326/30
5	<input type="checkbox"/>	<input type="checkbox"/>	US 5878238 A	19990302	9	Technique for supporting semi-compliant PCI devices	710/314	
6	<input type="checkbox"/>	<input type="checkbox"/>	US 5790814 A	19980804	7	Technique for supporting semi-compliant PCI devices	710/314	

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Results Key:

JNL = Journal or Magazine **CNF** = Conference **STD** = Standard

1 A new CAMAC and VXibus high performance highway interconnect
Cleary, R.T.;

 Nuclear Science, IEEE Transactions on , Volume: 44 , Issue: 3 , June 1997
 Pages:393 - 397

[\[Abstract\]](#) [\[PDF Full-Text \(564 KB\)\]](#) **IEEE JNL**
2 A new CAMAC and VXibus high performance highway interconnect
Cleary, R.T.;

 Nuclear Science Symposium, 1996. Conference Record., 1996 IEEE , Volume: 1 , 2-9 Nov. 1996
 Pages:460 - 464 vol.1

[\[Abstract\]](#) [\[PDF Full-Text \(504 KB\)\]](#) **IEEE CNF**
3 The design of a PC-based, low-cost radar video signal generator
Olsen, D.W.; Willis, M.J.;

 Aerospace and Electronics Conference, 1997. NAECON 1997., Proceedings of IEEE 1997 National , Volume: 2 , 14-17 July 1997
 Pages:544 - 551 vol.2

[\[Abstract\]](#) [\[PDF Full-Text \(640 KB\)\]](#) **IEEE CNF**
4 PC/104-ISA to PCI
Brown, M.F.;

 WESCON/98 , 15-17 Sept. 1998
 Pages:210 - 215

[\[Abstract\]](#) [\[PDF Full-Text \(776 KB\)\]](#) **IEEE CNF**

5 A PC based voice mailing system

Pande, A.; Sirkar, K.; Kanade, A.; Gracias, P.; Pandit, N.; Kumar, K.R.; Krishnamachari, H.;

TENCON '89. Fourth IEEE Region 10 International Conference , 22-24 Nov. 1989.
Pages:503 - 506

[\[Abstract\]](#) [\[PDF Full-Text \(288 KB\)\]](#) **IEEE CNF**

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PC/104-ISA to PCI

Brown, M.F.

Adastra Syst. Corp., Hayward, CA, USA ;

This paper appears in: **WESCON/98**

Meeting Date: 09/15/1998 - 09/17/1998

Publication Date: 15-17 Sept. 1998

Location: Anaheim, CA USA

On page(s): 210 - 215

Reference Cited: 7

Number of Pages: iv+366

Inspec Accession Number: 6201144

Abstract:

Describes the PC/104 standard. PC/104 is simply the ISA **bus** packaged in a pin and **socket configuration**. This form-factor is ideal for embedding into e It does not rely on a backplane or motherboard architecture to interconnect t **bus**. In a stack of one or two **boards**, the system designer can satisfy all his requirements. The final product can be considerably smaller than a standard I more reliable mounting and connectors it is able to work in more demanding environments

Index Terms:

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L3: Entry 1 of 6

File: USPT

Jun 22, 2004

DOCUMENT-IDENTIFIER: US 6754747 B2

TITLE: System and method for configuring an I/O bus

Abstract Text (1):

A system and method are provided for configuring an I/O bus. The system and method includes a plurality of adapter cards. A plurality of adapter card slots associated with the I/O busses receive the adapter cards into the computer. A user initiates optimization to check for configuration optimization problems and more specifically to check the placement of the adapter cards within the adapter card slots of the I/O busses. The user initiates optimization and in turn activates the improvement engine within the computer. The improvement engine analyzes the data transfer rates of the I/O busses and adapter cards and the placement of the adapter cards to determine an improved configuration of the adapter cards within the I/O busses. Indicators located proximate to the I/O busses display visual indication regarding the adapter card placement within the I/O busses allowing the user to determine if the configuration can be improved.

Brief Summary Text (14):

In accordance with one aspect of the present disclosure, a system and method provides visual indication of I/O bus configuration optimization problems and solutions. A computer has a plurality of adapter cards. A user inserts the adapter cards into adapter card slots interfaced with the I/O busses of the computer. The user presses an optimization switch, located on the computer, to check the current adapter card configuration. Pressing the optimization switch activates an improvement engine within the computer to analyze the I/O busses and the adapter cards to determine an improved configuration of the adapter cards within the adapter card slots of the I/O busses. Indicators located on the computer and proximate to the adapter card slots display visual indication on whether or not the adapter card placement within the I/O busses is an optimal configuration.

Brief Summary Text (18):

Another important technical advantage of the present disclosure is that it simplifies servicing by telephone. If a technical support staff suspects that an I/O bus adapter card slot configuration problem causes a user's overall problem, the technical support staff can tell the user to activate optimization and the user can quickly report back to the technical support staff what the indicators display. The technical support staff can determine if there is an optimization configuration problem from what the indicators display. Therefore, users unaware of configuration problems, adapter cards, and I/O busses and having problems associated with any of these items can have these problems adequately addressed with servicing over the telephone.

Detailed Description Text (9):

Indicators 116 denote four different states in relation to adapter card slots 108. Indicator 116 unlit indicates that no adapter card is present within adapter card slot 108. Indicator 116 that is a steady green indicates that adapter card 110 located in adapter card slot 108 does not limit the data transfer rate. Indicator 116 flashing amber indicates that adapter card 110 located in that adapter card slot 108 limits the bus transfer rate causing the configuration to not be optimized. Indicator 116 flashing green gives the indication of where the adapter

card 110 limiting the configuration should be moved in order to improve the data transfer rate.

CLAIMS:

20. A method for improving an adapter card configuration within a plurality of I/O busses, the method comprising: adding an adapter card to the I/O busses; initiating a performance check; reading indicators to ascertain if the adapter card configuration is limiting the data transfer rate; moving an adapter card from a non-optimal adapter card slot location to a suggested improved adapter card slot location to improve the adapter card configuration to improve I/O bus performance.

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L3: Entry 1 of 6

File: USPT

Jun 22, 2004

US-PAT-NO: 6754747

DOCUMENT-IDENTIFIER: US 6754747 B2

TITLE: System and method for configuring an I/O bus

DATE-ISSUED: June 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Locklear; David A.	Austin	TX		
Wright; Michael A.	Round Rock	TX		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Dell Products L.P.	Round Rock	TX			02

APPL-NO: 09/ 769799 [\[PALM\]](#)

DATE FILED: January 25, 2001

INT-CL: [07] [G06 F 13/00](#)

US-CL-ISSUED: 710/100; 710/107

US-CL-CURRENT: [710/100](#); [710/107](#)

FIELD-OF-SEARCH: 710/47, 710/33-52, 710/57, 710/58, 710/109, 710/100, 710/107, 710/113, 710/154, 710/323, 710/305, 713/2, 713/600

PRIOR-ART-DISCLOSED:

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PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/> 5179670	January 1993	Farmwald et al.	395/325
<input type="checkbox"/> 5329621	July 1994	Burgess et al.	395/325
<input type="checkbox"/> 5465346	November 1995	Parks et al.	395/296
<input type="checkbox"/> 5533205	July 1996	Blackledge, Jr. et al.	395/297
<input type="checkbox"/> 5689691	November 1997	Mann	395/557
<input type="checkbox"/> 5727208	March 1998	Brown	395/653
<input type="checkbox"/> 5740380	April 1998	LaBerge et al.	395/287

<input type="checkbox"/> 5742847	April 1998	Knoll et al.	395/866
<input type="checkbox"/> 5778194	July 1998	McCombs	395/280
<input type="checkbox"/> 5862369	January 1999	Parks et al.	395/558
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<input type="checkbox"/> 6018803	January 2000	Kardach	713/323
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<input type="checkbox"/> 6145040	November 2000	La Berge et al.	710/107
<input type="checkbox"/> 6163824	December 2000	Quackenbush et al.	710/100
<input type="checkbox"/> 6266723	July 2001	Ghodrat et al.	710/100
<input type="checkbox"/> 6295568	September 2001	Kelley et al.	710/305
<input type="checkbox"/> 6425079	July 2002	Mahmoud	713/2

OTHER PUBLICATIONS

U.S. Pending patent application Ser. No. 09/637,039 entitled "System and Method for Cabling Computing Equipment" filed by Hsieh et al and assigned to Dell Products L.P. (DC-02474) filed Aug. 10, 2000.

U.S. Pending patent application Ser. No. 09/637,645 entitled "A System and Method for Virtual Setup and Configuration for a Build-to-Order Computer" filed by Eynon et al. and assigned to Dell Products L.P. (DC-02378) filed Aug 14, 2000.

ART-UNIT: 2111

PRIMARY-EXAMINER: Dang; Khanh

ATTY-AGENT-FIRM: Baker Botts L.L.P.

ABSTRACT:

A system and method are provided for configuring an I/O bus. The system and method includes a plurality of adapter cards. A plurality of adapter card slots associated with the I/O busses receive the adapter cards into the computer. A user initiates optimization to check for configuration optimization problems and more specifically to check the placement of the adapter cards within the adapter card slots of the I/O busses. The user initiates optimization and in turn activates the improvement engine within the computer. The improvement engine analyzes the data transfer rates of the I/O busses and adapter cards and the placement of the adapter cards to determine an improved configuration of the adapter cards within the I/O busses. Indicators located proximate to the I/O busses display visual indication regarding the adapter card placement within the I/O busses allowing the user to determine if the configuration can be improved.

23 Claims, 4 Drawing figures

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L3: Entry 4 of 6

File: USPT

Apr 4, 2000

DOCUMENT-IDENTIFIER: US 6047379 A
TITLE: Information bus regenerator

Detailed Description Text (3):

Referring in particular to FIGS. 3 and 4, the bus regenerator 6 shown has a housing 8 and two sockets 10 and 13 on opposite ends of housing 8, and status indicator light emitting diodes ("LEDs") 14. Sockets 10 and 13 are female sockets of identical 68 pin configuration for wide SCSI bus connection, with socket 13 being for connection to a differential SCSI bus, and therefore include pins connected to a number of data and control lines as well as at least one termination power line. Sockets 10 and 3 each can repetitively and releasably engage and disengage with mating male socket members 60 and 82, respectively, by manual insertion/removal in a known manner. Optional additional mating screw/threaded bore fasteners (not shown) can secure any one of sockets 10, 13 and its engaged mating socket member in the engaged position. An active terminator unit 14, and a passive terminator unit 18, both of known configuration, are connected to respective sockets 10 and 13 to terminate each of the data and control lines from a connected bus, in a known manner. Active terminator unit 14 includes three active terminator ICs, such as those made by Linfinity (Garden Grove, Calif.).

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L3: Entry 4 of 6

File: USPT

Apr 4, 2000

US-PAT-NO: 6047379

DOCUMENT-IDENTIFIER: US 6047379 A

TITLE: Information bus regenerator

DATE-ISSUED: April 4, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Larabell; Henri J.	San Jose	CA		
Kiesselbach; Kevin	San Carlos	CA	94070	

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Larabell; Henri	San Jose	CA			04
Kiesselbach; Kevin	San Carlos	CA			04

APPL-NO: 08/ 991993 [PALM]

DATE FILED: December 17, 1997

INT-CL: [07] G06 F 1/26, G06 F 13/40, H01 P 1/24

US-CL-ISSUED: 713/300; 326/30, 710/101, 307/66

US-CL-CURRENT: 713/300; 307/66, 326/30

FIELD-OF-SEARCH: 713/300, 710/100, 710/101, 710/2, 307/66, 326/86, 326/30, 333/22R, 361/683, 327/530

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

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PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/> <u>4015147</u>	March 1977	Davidson et al.	327/566
<input type="checkbox"/> <u>4604689</u>	August 1986	Burger	364/200
<input type="checkbox"/> <u>5208562</u>	May 1993	Schirm, IV	333/22R
<input type="checkbox"/> <u>5337413</u>	August 1994	Lui et al.	395/275
<input type="checkbox"/> <u>5495584</u>	February 1996	Holman, Jr. et al.	395/308
<input type="checkbox"/> <u>5577205</u>	November 1996	Hwang et al.	395/200.01

<input type="checkbox"/>	<u>5596757</u>	January 1997	Smith	395/750
<input type="checkbox"/>	<u>5680065</u>	October 1997	Park	326/86
<input type="checkbox"/>	<u>5754868</u>	May 1998	Yamamoto et al.	713/300
<input type="checkbox"/>	<u>5864715</u>	January 1999	Zani et al.	710/63

ART-UNIT: 271

~~PRIMARY-EXAMINER: Ray; Gopal C.~~

ATTY-AGENT-FIRM: Chaikin; Douglas A. Peninsula IP Group

ABSTRACT:

A bus regenerator, and an extended bus information system and method of communicating information, using such a regenerator. A bus regenerator has first and second information buses. A processor is connected to transfer information between the buses and at least one terminator is connected to terminate one of the buses (preferably a terminator is provided for each bus). A termination power line supplies termination power to the terminator and power to the processor. Additionally, a rechargeable power source, particularly a rechargeable battery, is connected to the termination power line, so as to supply power to at least one of the terminator and the processor, and recharge from the termination power line, as total power used by the terminator and processor varies.

33 Claims, 9 Drawing figures



US006754747B2

(12) United States Patent
Locklear et al.**(10) Patent No.: US 6,754,747 B2**
(45) Date of Patent: Jun. 22, 2004**(54) SYSTEM AND METHOD FOR**
CONFIGURING AN I/O BUS**(75) Inventors:** David A. Locklear, Austin, TX (US);
Michael A. Wright, Round Rock, TX
(US)6,145,040 A 11/2000 La Berge et al. 710/107
6,163,824 A 12/2000 Quackenbush et al. 710/100
6,266,723 B1 • 7/2001 Ghodrat et al. 710/100
6,295,568 B1 • 9/2001 Kelley et al. 710/305
6,425,079 B1 • 7/2002 Mahmoud 713/2**OTHER PUBLICATIONS****(73) Assignee:** Dell Products L.P., Round Rock, TX
(US)**(*) Notice:** Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 479 days.**(21) Appl. No.:** 09/769,799**(22) Filed:** Jan. 25, 2001**(65) Prior Publication Data**

US 2002/0099875 A1 Jul. 25, 2002

(51) Int. Cl.⁷ G06F 13/00**(52) U.S. Cl. 710/100; 710/107****(58) Field of Search 710/47, 33-52,**
710/57, 58, 109, 100, 107, 113, 154, 323,
305; 713/2, 600**(56) References Cited****U.S. PATENT DOCUMENTS**5,179,670 A 1/1993 Farmwald et al. 395/325
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6,018,809 A 1/2000 Kardach 713/323U.S. Pending patent application Ser. No. 09/637,039 entitled
"System and Method for Cabling Computing Equipment"
filed by Hsieh et al and assigned to Dell Products L.P.
(DC-02474) filed Aug. 10, 2000.U.S. Pending patent application Ser. No. 09/637,645 entitled
"A System and Method for Virtual Setup and Configuration
for a Build-to-Order Computer" filed by Eynon et al. and
assigned to Dell Products L.P. (DC-02378) filed Aug 14,
2000.

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Primary Examiner—Khanh Dang*(74) Attorney, Agent, or Firm*—Baker Botts L.L.P.**(57) ABSTRACT**

A system and method are provided for configuring an I/O bus. The system and method includes a plurality of adapter cards. A plurality of adapter card slots associated with the I/O busses receive the adapter cards into the computer. A user initiates optimization to check for configuration optimization problems and more specifically to check the placement of the adapter cards within the adapter card slots of the I/O busses. The user initiates optimization and in turn activates the improvement engine within the computer. The improvement engine analyzes the data transfer rates of the I/O busses and adapter cards and the placement of the adapter cards to determine an improved configuration of the adapter cards within the I/O busses. Indicators located proximate to the I/O busses display visual indication regarding the adapter card placement within the I/O busses allowing the user to determine if the configuration can be improved.



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United States Patent [19]

Gan et al.

[11] Patent Number: 5,878,238

[45] Date of Patent: Mar. 2, 1999

[54] TECHNIQUE FOR SUPPORTING SEMI-COMPLIANT PCI DEVICES BEHIND A PCI-TO-PCI BRIDGE

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[73] Assignee: Dell USA, L.P., Round Rock, Tex.

[21] Appl. No.: 908,650

[22] Filed: Aug. 7, 1997

Related U.S. Application Data

[62] Division of Ser. No. 590,461, Jan. 23, 1996.

[51] Int. Cl.⁶ G06F 1/30; G06F 13/40

[52] U.S. Cl. 395/308; 395/309; 395/828; 395/183.12

[58] Field of Search 395/280-284, 395/306-309, 828-834, 183.12

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Attorney, Agent, or Firm—Haynes and Boone, LLP

[57] ABSTRACT

Method and apparatus for detecting the presence of a semi-compliant PCI device in a secondary expansion slot of a PC and instructing the user to reinsert the device into one of the primary slots are disclosed. In one embodiment, upon detection of a semi-compliant PCI device in a secondary slot, a video image instructing the user to reinsert the device into one of the primary slots is displayed on a display of the PC. Operation remains suspended until the device is relocated to a primary slot. In a presently preferred embodiment, a hardware enhancement to a PCI-to-PCI bridge connecting a primary PCI bus to a secondary PCI bus enables the device to operate flawlessly on the secondary PCI bus, such that the user remains unaware of the otherwise undesirable situation.

24 Claims, 2 Drawing Sheets

MAIN

US-PAT-NO: 5790814

DOCUMENT-IDENTIFIER: US 5790814 A

TITLE: Technique for supporting semi-compliant PCI devices
behind a PCI-to-PCI bridge

----- KWIC -----

Detailed Description Text - DETX (2):

As described above, FIG. 1 is a system block diagram of a PC 10 comprising a conventional PCI bus configuration. Referring now to FIGS. 2A and 2B, a flowchart of a method of detecting the presence of a semi-compliant PCI device in a secondary expansion slot and informing the user of this condition via a video image or other indicator. In particular, the method illustrated in FIGS. 2A and 2B utilizes an exception handler to detect that a semi-compliant PCI device is plugged into one of the secondary slots 36a-36c and instruct the user to move the device from the secondary slot to one of the primary slots 28a, 28b. It will be appreciated that instructions for execution by the host processor for implementing the method illustrated in FIGS. 2A and 2B, as well as the method illustrated in FIG. 3, are stored in a memory device of the PC 10.

First Hit Fwd Refs
End of Result Set



Generate Collection

Print

L1: Entry 1 of 1

File: USPT

Mar 11, 1997

US-PAT-NO: 5611057

DOCUMENT-IDENTIFIER: US 5611057 A

TITLE: ~~Computer system modular add-in daughter card for an adapter card which also~~
functions as an independent add-in card

DATE-ISSUED: March 11, 1997

INT-CL: [06] H01 R 23/00

US-CL-ISSUED: 395/282; 361/784, 439/74

US-CL-CURRENT: 710/301; 361/784, 439/74

FIELD-OF-SEARCH: 361/784, 361/785, 439/74, 439/75, 395/281-282